COURSE INFORMATION

Course title:	Empirical Finance		
Course code:	BAFI 520	Credits:	1.5
Session, term, period:	2021W1, Period 4	Class location:	HA 437
Section(s):	002	Class times:	Lecture: Tue, Thu 14:00 – 16:00
			Tutorial: Tue 12:00 – 14:00
			(only some weeks)
Course duration:	March 7 to Apr 14, 2022	Pre-requisites:	BAFI 502, BAFI 511
Division:	Finance	Co-requisites:	n/a
Program:	MBA		

INSTRUCTOR INFORMATION

Instructor:	Professor Jack Favilukis		
Phone:	604-822-9414	Office location:	HA 867
Email:	Jack.favilukis@sauder.ubc.ca	Office hours:	By appointment

Teaching assistant:	TBA
Office hours:	TBA
Email:	TBA

COURSE DESCRIPTION

This course focuses on applying the main concepts of finance theory established in prior core finance courses to actual financial data. Financial markets provide vast amounts of data that can be highly informative for practical financial decision making. In this course, you will familiarize yourself with financial data sources and with methods for accessing them. Next, you will learn to use financial data to extract decision-relevant information. Finally, you will learn to interpret financial information using finance theory. This course relies on Excel – the standard tool in the financial industry to analyze data – for financial analysis.

COURSE FORMAT

Class time will be used for a combination of lectures, discussion. Attendance is expected to accomplish the learning objectives below.

LEARNING OBJECTIVES

Students will be able to:

- *Access data from financial data providers, for example, Bloomberg, Capital IQ, CRSP, Compustat, Thomson REUTERS Datastream, and EDGAR.*

- *Use Excel to process, summarize, and describe the data and to conduct statistical inference using, for example, basic statistics, pivot tables, lookup tables, and regressions.*

- *Understand current and historical facts about fundamental financial markets variables that are relevant for financial decision-making, for example, the market risk premium, P/E ratios, default probabilities, and term structure of government bond yields.*

- *Use financial data and finance theory to make investment and corporate finance decisions.*

- *Critically evaluate information from the business press and applied finance journals.*

ASSESSMENTS

Summary

Component	Weight
Final exam	30%
Final project	25%
Valuation team assignment	20%
Performance evaluation team assignment	20%
Participation	5%
Total	100%

Details of Assessments

Final exam

There will be a two-hour final exam. The exam will be closed book. You will be allowed to bring in a hand written, double sided cheat sheet that fits on a standard sized piece of paper.

Final project

For the final project, you are going to ask an economic question and then answer it using real world data. See detailed instructions, posted separately.

Common policy for all team assignments

For team assignments, you may form groups of 2 or 3 students. You may work in different groups for each team assignment. The due dates on all team assignments will be agreed in class and will be strictly enforced. In no cases, no matter how exceptional the circumstances, can an assignment be accepted after solutions have been made available.

The course will use peer evaluations (iPeer) as part of the assessment of the team assignments. Working in high-performing teams is not a given, it is a result of commitment, communication and trust. Working in teams will continue to be a critical process in any corporate or organizational context. Teamwork brings both challenges and opportunities. Getting comfortable with both giving and receiving feedback is a key skill that should be developed now to be used for the rest of your professional careers.

Using iPeer, students will offer evaluations of their peers' role and contributions as team members. A good team member is open to feedback from their peers, learns from it, and adjusts course where relevant. For feedback to be meaningful, it must be timely and specific. Average numerical score and comments without evaluator names will be shared with each student. This feedback on your performance should be used to enhance your individual performance in teams in the future

The instructor will look at the peer evaluations and decide whether to make adjustments to individual grades. If your team is dissatisfied with your work, effort and input, then you will be asked for a paper trail on your contributions and then the instructor will decide whether or not to reduce your grade; no individual is entitled to the team grade unless they have contributed significantly to the work submitted.

Valuation team assignment: Scout24 AG Purchase by Private Equity & Subsequent IPO

The project is a re-enactment of the Scout24 AG purchase by private equity investors and its subsequent Initial Public Offering ("IPO") completed in October 2015. While focused on valuation, the assignment concerns the role of leverage in private equity transactions, as well as the main aspects of the IPO process.

Performance evaluation team assignment: International diversification using Fidelity's FNORX, BlackRock's MDGCX, and Vanguard's VINEX funds

In this assignment, students will assess the performance of three well-known equity mutual funds. To accomplish this goal, students will perform a multi-factor analysis using the most commonly used asset pricing models.

Participation

Please make every effort to attend the lectures and come well prepared. Feel free to ask questions or contribute to lecture discussions at any time. I also encourage you to provide feedback about how to improve the course. In every aspect, I will adhere to the "Academic Integrity" policy of the Sauder School of Business. I will also respect and follow "Academic Misconduct Policy & Procedures" of UBC.

LEARNING MATERIALS

The course will not follow any textbook. You may find the following textbook useful, though it is not required:

Berk, DeMarzo, and Stangeland, 2015, Corporate Finance, Third Canadian Edition Plus NEW MyFinanceLab with Pearson eText -- Access Card Package, ISBN: 9780133552683. From now on "BDS Corporate Finance 3/E". Note that the fourth edition of this book is on the way. There are two purchase options:

1) Buy the regular hardcopy textbook with access to MyFinanceLab with e-text.

2) Buy only MyFinanceLab and have access to the full e-text.

Additional reading

The Economist, Financial Times, Wall-Street Journal, New York Times relevant for class topics.

COURSE-SPECIFIC POLICIES AND RESOURCES

Missed or late assignments, and regrading of assessments
Late submissions will not be accepted and will receive a grade of zero.

Academic Concessions
If extenuating circumstances arise, please contact the RHL Graduate School program office as early as reasonably possible, and submit an Academic Concession Request & Declaration Form https://webforms.sauder.ubc.ca/academic-concession-rhlee. If an academic concession is granted during the course, the student will be provided options by RHL, or by the instructor in consultation with RHL, per UBC's policy on Academic Concession.

Other Course Policies and Resources

POLICIES APPLICABLE TO COURSES IN THE ROBERT H. LEE GRADUATE SCHOOL

Attendance
Excepting extenuating circumstances, students are expected to attend 100% of their scheduled class hours. Absent students limit their own academic potential, and that of their classmates, and cause unnecessary disruption to the learning environment. Students missing more than 20% of the total scheduled class hours for a course (including classes held during the add/drop period) without having received an academic concession will be withdrawn from that course. Withdrawals, depending on timing, could result in a "W" or an "F" standing on the transcript.

COVID-19 Policies for Attendance & Academic Concessions:

If a student feels unwell, they should stay home and send a courtesy email to each impacted instructor and cc their program manager. The student should also submit an Academic Concession Request & Declaration Form.

If a student suspects possible COVID-19 infection, they should use the BC Ministry of Health's self-assessment tool, to help determine whether further assessment or testing for COVID-19 is recommended.

If a student is required to self-isolate (e.g., while waiting for test results), they should follow the steps above (stay home, email instructor(s) and program manager, submit an Academic Concession Request & Declaration Form, and follow BC Health Guidance.

Students who are required to quarantine, should get in touch with their Program Manager to discuss the possibility of academic concessions for each impacted course. The Program Manager will work closely with your instructors to explore options for you to make up the missed learning.

COVID-19 Safety in the Classroom:

Masks: Masks are **required** for all indoor classes, as per the BC Public Health Officer orders. For our in-person meetings in this class, it is important that all of us feel as comfortable as possible engaging in class activities while sharing an indoor space. For the purposes of this order, the term "masks" refers to medical and non-medical masks that cover our noses and mouths. Masks are a primary tool to make it harder for COVID-19 to find a new host. You will need to wear a medical or non-medical mask for the duration of our class meetings, for your own protection, and the safety and comfort of everyone else in the class. You may be asked to remove your mask briefly for an ID check for an exam, but otherwise, your mask should cover your nose and mouth. Please do not eat in class. If you need to drink water/coffee/tea/etc, please keep your mask on between sips. Students who need special accommodation are asked to discuss this with the program office.

Seating in class: To reduce the risk of COVID-19 transmission, please sit in a consistent area of the classroom each day. This will minimize your contacts and will still allow for the pedagogical methods planned for this class to help your learning.

Visit the following website for the most recent updates regarding COVID-19 protocol on campus: https://students.ubc.ca/campus-life/returning-to-campus

Punctuality

Students are expected to arrive for classes and activities on time and fully prepared to engage. Late arrivals may be refused entry at the discretion of the instructor or activity lead. Students arriving later than halfway through a scheduled class will be treated as absent for that class.

Electronic Devices

Students are expected to bring a laptop (tablet is ok but laptop is preferred) to class as much of the work involves Excel, which students should follow on their own device. When we are not actively using laptops, devices such as laptops, tablets, and cell phones are not permitted to be used in class unless directed by the instructor for in-class activities. Students who do not follow the School's policy in this regard may be required to leave the room for the remainder of the class, so that they do not distract

others. Research shows that students' use of laptops in class has negative implications for the learning environment, including reducing their own grades and the grades of those sitting around them.

Citation Style
Please use the American Psychological Association (APA) reference style to cite your sources.

Details of the above policies and other RHL Policies are available at:
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,199,506,1625

UNIVERSITY POLICIES AND RESOURCES
UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the UBC Senate website at https://senate.ubc.ca/policies-resources-support-student-success.

Respect for Equity, Diversity, and Inclusion
The UBC Sauder School of Business strives to promote an intellectual community that is enhanced by diversity along various dimensions including status as a First Nation, Metis, Inuit, or Indigenous person, race, ethnicity, gender identity, sexual orientation, religion, political beliefs, social class, and/or disability. It is critical that students from diverse backgrounds and perspectives be valued in and well-served by their courses. Furthermore, the diversity that students bring to the classroom should be viewed as a resource, benefit, and source of strength for your learning experience. It is expected that all students and members of our community conduct themselves with empathy and respect for others.

Academic Integrity
The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

Academic Freedom and Students Studying from Outside Canada
During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and

historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0 for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: http://academic.ubc.ca/support-resources/freedom-expression

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All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline and could be subject to legal action. Any lecture recordings are for the sole use of the instructor and students enrolled in the class. In no case may the lecture recording or part of the recording be used by students for any other purpose, either personal or commercial. Further, audio or video recording of classes are not permitted without the prior consent of the instructor. Students may not share class Zoom links or invite others who are not registered to view sessions.

ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

ONLINE TEACHING TOOL & REQUIREMENTS

This course might be taught using Zoom for synchronous classes and office hours.

For this course, you might be required to use a Zoom account during synchronous classes and office hours. If you do not have a Zoom account, you can create one here: https://zoom.us/signup. Note: creating a Zoom account requires that you provide a first name, last name, and email address to Zoom. For privacy purposes, you may consent to using your existing email address and your real name. Alternatively, if you prefer, you may sign up using an alternative email address and an anonymized name that does not identify you (i.e. Jane Doe, jane.doe@email.com). If you have trouble creating an account, or accessing a Zoom session, please contact CLCHelp@sauder.ubc.ca. You will be required to provide the email address associated with your Zoom account in a Canvas quiz for identification purposes.

To help replicate the classroom experience, make sessions more dynamic and hold each person accountable, both students and instructors are required to have their cameras on during Zoom sessions. Students who require an accommodation with regard to the "camera on" requirement must contact their instructors in advance of the first class to discuss options. As professional graduate students, students are expected to conduct themselves professionally by joining sessions on time, muting mics when not speaking, refraining from using any other technology when in-session, attending in business casual dress (at a minimum), and participating from a quiet environment. Content from synchronous sessions will be selectively recorded per instructor discretion and made available to students on Canvas

for a maximum duration of the course length. This is done to allow students the opportunity to return to lecture content to solidify learnings.

COURSE SCHEDULE
(Subject to change with class consultation)
Schedule is tentative. All or a subset of topics/activities will be covered as time permits.

Class#	CLASS TOPICS	ACTIVITIES / READINGS	ASSIGNMENTS / DELIVERABLES
Class 1 March 8	*Introduction to data analysis*	*Excel review, computing summary stats, running regressions*	
Class 2 March 10	*Valuation* *Corporate financial statements. Free cash flows.* *Reference: "BDS Corporate Finance 3/E" chapters 7, 9.1, 9.2, 12.6, 22, 23.2, and 23.3.*	*Valuation of a high growth company at the IPO stage.* *Data: Corporate financial statements data from Bloomberg, Capital IQ, and Compustat North America. Corporate filings data available through the U.S. Securities and Exchange Commission's (SEC) EDGAR online system.*	
Class 3 March 15	*Valuation* *Discounted cash flow (DCF) valuation. Adjusted present value (APV) and weighted average cost of capital (WACC) valuation approach.*	*Valuing Microsoft using DCF*	
Class 4 March 17	*Valuation* *Valuation using multiples derived from comparable companies. Valuation using characteristic regressions.*	*Finding comparable firms to form basis for valuation. Estimating common valuation multiples using regression analysis. Valuing Microsoft using Multiples Approach. Valuing Caterpillar using characteristic regressions.*	
Class 5 March 22	*Scout24 Assignment guest lecture*	*Bruce Hilland will present the results of the Scout24 assignment and discuss general market trends*	*Valuation team assignment: Scout24 AG Purchase by Private Equity & Subsequent IPO.* ***Due March 21, 11:59pm.***
Class 6 March 24	*Asset pricing models and performance evaluation* *Multi-factor models. Fama-French 3-factor*	*Value vs. growth investing. Evaluation of funds' performance. Choosing benchmarks for evaluating*	

	model: SMB and HML factor loadings. Momentum. Performance evaluation metrics. Biases in returns due to survivorship. Applying models to measure performance of funds	*funds' performance. Empirical evidence on performance.* *Data: Mutual funds return data from Bloomberg and the Center for Research in Security Prices (CRSP).*	
Class 7 **March 29**	***Asset pricing models and performance evaluation***		*Performance evaluation team assignment: International diversification using Fidelity's FNORX, BlackRock's MDGCX, and Vanguard's VINEX funds.* ***Due April 3, 11:59pm***
Class 8 **March 31**	***Return predictability*** *Efficient market hypothesis. Asset bubbles. Autocorrelation of returns. Gross, net returns, and log returns. Compounding returns over different horizons. Average arithmetic and geometric returns.* *Reference: "BDS Corporate Finance 3/E" chapter 13.*	*Predicting returns using past returns.* *Data: Return data on broad stock indexes (S&P 500, MSCI Global Equity Indexes, FTSE 100) and on U.S. Treasury securities (Bills, Notes, Bond, Strips, Inflation-protected bonds - TIPS) from the Center for Research in Security Prices (CRSP) and Thomson Reuters Datastream. Case-Shiller house price index.*	
Class 9 **April 5**	***Return predictability***	*Predicting returns using macroeconomic variables. Out of sample predictability.*	
Class 10 **April 7**	***Risk measurement*** *Distribution of returns. Advanced risk-related moments of returns: variance ratio statistics, skewness, kurtosis. Simulation of asset returns and construction of the empirical histogram of returns.*	*Time varying risk and volatility. Value-at-Risk: quantifying risks of investments into a portfolio of securities. Out of sample VaR. Correlation as it relates to VaR.*	
April 10			*Final Project* ***Due Apr 10, 11:59pm***